

Notice of Allowability

Application No.

10/784,037

Applicant(s)

OZAWA ET AL.

Examiner

Art Unit

Timothy L. Rude

2883

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to RCE filed 20 September 2005.
2. ☒ The allowed claim(s) is/are 1-15.
3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some* c) ☐ None of the:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☒ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
- (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
- 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
- (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|---|--|
| 1. <input type="checkbox"/> Notice of References Cited (PTO-892) | 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 6. <input type="checkbox"/> Interview Summary (PTO-413),
Paper No./Mail Date _____. |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date _____ | 7. <input type="checkbox"/> Examiner's Amendment/Comment |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit
of Biological Material | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance |
| | 9. <input type="checkbox"/> Other _____ |

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DETAILED ACTION

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after allowance or after an Office action under *Ex Parte Quayle*, 25 USPQ 74, 453 O.G. 213 (Comm'r Pat. 1935). Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, prosecution in this application has been reopened pursuant to 37 CFR 1.114. Applicant's submission filed on 20 September 2005 has been entered.

Terminal Disclaimer

The three terminal disclaimers filed on 20 September 2005 disclaiming the terminal portion of any patent granted on this application which would extend beyond the expiration date of the copending applications have been reviewed and are accepted. The terminal disclaimers have been recorded.

Claims

Claim 9 is amended. Claims 10-15 are added.

Allowable Subject Matter

Claims 1-15 are allowed.

The following is an examiner's statement of reasons for allowance:

As to claims 1, and 9, relevant prior art of record did not disclose, alone or in combination, a transfective liquid crystal display device as claimed comprising: a second substrate that includes a shading film, a first substrate that includes: a light-reflecting layer defining reflective display regions in pixel regions where the first transparent electrodes oppose the second transparent electrode and transmissive display regions in the regions of the pixel regions other than the reflective display regions; a thickness-adjusting layer setting the thickness of the liquid crystal layer in the reflective display regions to be smaller than the thickness of the liquid crystal layer in the transmissive display regions; and the first transparent electrodes, *in that order*, in the upward direction, and wherein, at the boundary between each reflective display region and transmissive display region, and wherein bottom (inboard) edges of slopes formed at ends of the thickness-adjusting layer are substantially aligned with edges of the light-reflecting layer in plan view.

One of the closest references is Song et al (Song) USPAT 6,614,496 B1 wherein the reflective layer is below the transparent electrode. However, no reference with motivation to combine could be found to comprise the claimed structure. Applicant's

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invention permits control of transmitted and reflected light in the sloped region between the reflective and transmissive portions of the pixel area to prevent unwanted light leakage in said region.

Please note that the claimed thickness-adjusting layer is considered to be a layer that substantially adjust the thickness as its main function; layers for predominantly other purposes that do not substantially adjust the thickness of the liquid crystal layer are not considered to read on the claimed invention.

Also, Ha et al (Ha) USPAT 6,697,138 B2 is considered to have a thickness-adjusting layer under the reflective layer, and Fujino USPAT 6,822,708 has no sloped regions. Therefore, Ha and Fujino are considered to not read on the claimed invention, and no proper motivation to combine any combination of references to comprise the claimed invention was found.

Lastly, IDS of 08 June 2005 included Kubo Masumi, Japanese Patent Abstract Publication 11-101992, but it has no teaching as to sloped regions. Devices with incidental amounts of slope (slope that does not substantially deviate from vertical, i.e., slope that does not substantially deviate from 90 degrees relative the plane of the substrate) that naturally result from photolithographic techniques are not considered to read on the claimed invention. Therefore, no prior art was found with proper motivation to combine any to comprise the invention as claimed.

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As to claims 2-8 and 10-15, they properly depend from a claim with allowable subject matter above.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

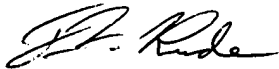
Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Timothy L. Rude whose telephone number is (571) 272-2301. The examiner can normally be reached on Mon-Thurs.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Frank G. Font can be reached on (571) 272-2415. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

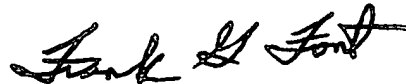
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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



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Timothy L Rude
Examiner
Art Unit 2883



Frank G. Font
Supervisory Patent Examiner
Technology Center 2800